

REMARKS/ARGUMENT

Claims 1-23 are pending in the present application and have been examined. The disclosure has been objected to because of certain informalities. Claims 1, 3, 4, 6, 7, 18, 20 and 22 have been rejected under 35 U.S.C. §102(a) over Takabayashi (U.S. Patent 6,031,174). Claims 2, 5, 8-17, 19, 21 and 23 have been rejected under 35 U.S.C. §103(a) over Takabayashi in view of Gabriel (U.S. Patent 5,824,933). The specification and claims have been amended hereby. In light of the enclosed amendments and the below remarks reconsideration of the present application is respectfully requested.

In paragraph 1 of the Office Action, the disclosure has been objected to because of certain informalities. As seen in the attached amendments to the specification, the informalities noted in the Office Action, along with other informalities have been corrected hereby. These informalities relate to grammatical and/or syntactical errors and their correction does not constitute new matter. Withdrawal of the objection to the disclosure is therefore respectfully requested.

In paragraph 3 of the Office Action claims 1, 3, 4, 6, 7, 18, 20 and 22 have been rejected under §102(a) over Takabayashi. In paragraph 5 of the Office Action claims 2, 5, 8-17, 19, 21 and 23 have been rejected under §103 over Takabayashi in view of Gabriel. Applicants respectfully traverse these rejections.

The subject invention is designed to generate musical tones in accordance with user's performing operations such as beating of performance operators. In contrast to the present invention as recited in the claims, the Takabayashi reference is designed in such a manner that the user selects a certain phrase by using an operator and performs music by reading the selected phrase. The Takabayashi reference discloses a musical tone generation method in which performance data, which are stored in advance in the memory by units of phrases respectively, are selected by the user's manual operations of the game pads so that the selected performance data are read from the memory and are used for generation of musical tones. This reference provides mere selection of performance data by the user, and it is not at all related to the user's performing operations such as striking (or beating) of performance operators. Therefore, the reference is quite different from the musical tone signal generation apparatus of the subject

invention that generates musical tones in accordance with the user's performing operations of the performance operators.

The Gabriel reference discloses an apparatus in which the user operates a joystick or keyboard to select a pre-recorded sound track so that music is performed using the selected sound track to be synchronized with the main sound track. This reference provides "mere" selection of the sound track by the user and it is not at all related to the user's performing operations such as beating of performances operators. Therefore, the reference is quite different from the musical tone signal generation apparatus of the subject invention that generates musical tones in accordance with the user's performing operations of the performance operators.

As recited in claims 1, and 2, the musical tone signal generator is controlled in response to the tone-generation instructions output by the performance operator. The tone-generation instructions are further described as "defining tone color data assigned to the at least one performance operator." The assignment of tone color data to a performance operator as recited in the claims of the present application is neither taught nor suggested by the prior art. In the rejection of claim 4, the Office Action cites Takabayashi at column 3 lines 15-16 and column 5, lines 30-34 as teaching tone color data. Applicants respectfully disagree. At these portion of Takabayashi, teaches the storage of the musical phrases as described above. The musical phrases of Takabayashi are not the tone color data as recited in the claims of the present invention. Gabriel does not cure any of these deficiencies in the Takabayashi reference as described above. As Takabayashi and Gabriel, either alone or in combination, do not teach the tone color data as recited in independent claims 1 and 2, withdrawal of the rejection of claims 1-3, 15, 17-19 is respectfully requested.

Claims 4, 5 and 8 each require "a tone color assignor for assigning tone colors, designated by the tone color data of the plurality of parts, respectively to the plurality of performance operators." As described above, Takabayashi at column 3 lines 15-16 and column 5, lines 30-34 does teach or suggest tone color data, let alone the a tone color assignor as recited in independent claims 4, 5 and 8. No where in Takabayashi does it describe any specific assignment to its operators, let alone the assignment of tone color data. Gabriel does not cure any of these deficiencies in the Takabayashi reference as described above. As Takabayashi and

Gabriel, either alone or in combination, do not teach the tone color assignor as recited in independent claims 4, 5 and 8, withdrawal of the rejection of claims 4-12, 16, and 20-23 is respectfully requested.

New claims 24-29 have been added to more fully claim the present invention, specifically, the structure (circular periphery) of the main body unit. These amendments do not add new matter to the present invention as support for these claims can be found in Figures 1 and 2 of the present specification. This circular periphery as recited in independent claim 24 is neither taught nor suggested by any of the prior art.

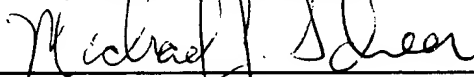
Applicant has shown that Takabayashi and Gabriel, either alone or in combination, do not teach or suggest the tone color data as recited in independent claims 1 and 2, nor the tone color assignor as recited in independent claims 4, 5 and 8. As each of the claims of the present invention are presently in condition for allowance, such action is earnestly solicited.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Asst. Commissioner for Patents, Washington, D.C. 20231, on November 21, 2001:

Respectfully submitted,

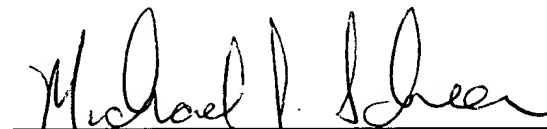
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APPENDIX B
VERSION WITH MARKINGS TO SHOW CHANGES MADE
37 C.F.R. § 1.121(b)(iii) AND (c)(ii)

SPECIFICATION

Paragraph at page 1, line 11:

Conventionally, engineers propose and design various types of musical tone signal generation apparatuses which are easy to be played by plenty of users to participate in musical performance so that [inexperienced] users who are inexperienced in performance of musical instruments can enjoy playing music. Those musical tone signal generation apparatuses are designed to be easily played by users and easily installed in prescribed places.

Paragraph at page 2, line 13:

Because the aforementioned electronic percussion instruments are constructed and shaped in table forms, it is easy for users to facilitate them in appropriate places. However, the table forms may cause limits in facilitation of places and manners of musical performance. Hence, the conventional table-type electronic percussion instruments are disadvantageous because of a low degree of freedom in musical performance. In order to accommodate for plenty of users being simultaneously seated, the table-type electronic percussion instruments should be designed to have a relatively large size of tables, which have difficulties in transportation. [Because, it] It is troublesome for users to carry the table-type electronic percussion instrument [having a large-size table, which is accommodated for plenty of users being seated, out of a room or building. So, the users are required to be seated around the table-type electronic percussion instrument that is transported and fixed in the room.

Paragraph at page 3, line 21:

In the case of automatic performance, musical tone signals are automatically generated based on the performance data, so that the speakers of the main unit produce corresponding musical tones. In case of manual performance, musical tone signals are generated in response to

tone-generation instructions being issued from the performance operator manually operated by the user, so that the speaker produces corresponding musical tones with respect to its tone color. Herein, it is possible to produce accompaniment sounds together with the musical tones of the manual performance.

Paragraph at page 7, line 2:

FIG. 3 is an enlarged view showing arrangement of switches and indicators on the control panel 120. The control panel 120 is mainly used for controls of automatic performance. Namely, the control panel 120 [installs] includes a play switch 121, a stop switch 12, a fast forward switch 123, a rewind (or reverse) switch 124, a power switch 125 and an eject switch 126. In addition, the control panel 120 also [installs] includes tone volume switches 127a, 127b and a tone volume indicator 127c, tempo switches 128a, 128b and a tempo indicator 128c, modulation switches 129a, 129b and a modulation indicator 129c.

Paragraph at page 7, line 20:

The tone volume switches 127a, 127b are used to designate a tone volume (VOLUME) of the automatic performance being played. Herein, the tone volume switch 127a designates decrease of the tone volume, while the tone volume switch 127b designates increase of the tone volume. The tone volume indicator 127c [installs] includes a prescribed number of LEDs for indication of the tone volume presently designated. Herein, the tone volume indicator 127c is configured by a prescribed number of blocks corresponding to the LEDs, one of which is selectively lighted. Every time the tone volume switch 127a is pressed, light (see highlighted "black" block) of the tone volume indicator 127c moves downwardly in view of the user who is seated at a main unit 100 to watch the control panel 120 as shown in FIG. 3. Every time the tone volume switch 127b is pressed, light of the tone volume indicator 127c moves upwardly in view of the user.

Paragraph at page 9, line 18:

The present embodiment [installs] includes two types of the operators, namely, the operator 200-0 specifically [installing] including a sub panel 210 as shown in FIG. 4 and other operators 200-1 to 200-4 each merely [installing] include two pads 201 as shown in FIG. 5. The sub panel 210 [installs] includes a play switch 211, a stop switch 212, a fast forward switch 213 and a rewind (or reverse) switch 214. Those switches 211, 212, 213 and 214 of the sub panel 210 respectively have same functions of the aforementioned switches 121, 122, 123 and 124 of the control panel 120.

Paragraph at page 12, line 8:

The present embodiment [describes] is described such that the performance data correspond to MIDI data, which describe data representing tone pitches and velocities as well as time information in accordance with a prescribed MIDI format (where “MIDI” represents the standard for “Musical Instrument Digital Interface”).

CLAIMS:

1. (Amended) A musical tone signal generation apparatus [installing] including at least one performance operator which is physically separated from a main unit to issue tone-generation instructions for generation of musical tones in response to manual operations made by a user, said musical tone signal generation apparatus comprising:

a musical tone signal generator for generating musical tone signals; a storage for storing performance data;

an automatic performance controller for playing automatic performance by controlling the musical tone signal generator based on the performance data stored in the storage; and

a manual performance controller for controlling the musical tone signal generator to generate the musical tone signals in response to the tone-generation instructions output from the at least one performance operator being manually operated by the user, the tone-generation instructions defining tone color data assigned to the at least one performance operator.

2. (Amended) A musical tone signal generation apparatus [installing] including at least one performance operator which is physically separated from a main unit to issue tone-generation instructions for generation of musical tones in response to manual operations made by a user, said musical tone signal generation apparatus comprising:

a musical tone signal generator for generating musical tone signals;

a storage for storing performance data;

an automatic performance controller for playing automatic performance by controlling the musical tone signal generator based on the performance data stored in the storage;

a manual performance controller for controlling the musical tone signal generator to generate the musical tone signals in response to the tone-generation instructions output from the performance operator being manually operated by the user, the tone-generation instructions defining tone color data assigned to the at least one performance operator, and

first and second manual operable members, each of which is manually operated by the user to control the musical tone signal generator in accordance with a prescribed function,

wherein the first manual operable member is provided for the main unit while the second manual operable member is provided for the performance operator.

4. (Amended) A musical tone signal generation apparatus [installing] including a plurality of performance operators each of which is physically separated from a main unit to issue tone-generation instructions for generation of musical tones in response to manual operations made by users, said musical tone signal generation apparatus comprising:

a musical tone signal generator for generating musical tone signals;

a storage which is provided for a musical tune constructed by a plurality of parts, so that the storage stores performance data with regard to at least a prescribed part within the plurality of parts and tone color data with regard to all of the plurality of parts;

a tone color assignor for assigning tone colors, designated by the tone color data of the plurality of parts, respectively to the plurality of performance operators;

an automatic performance controller for playing automatic performance by controlling the musical tone signal generator based on the performance data stored in the storage; and

a manual performance controller for controlling the musical tone signal generator to generate the musical tone signals in response to the tone-generation instructions output from the performance operators being manually operated by the users.

5. (Amended) A musical tone signal generation apparatus [installing] including a plurality of performance operators each of which is physically separated from a main unit to issue tone-generation instructions for generation of musical tones in response to manual operations made by users, said musical tone signal generation apparatus comprising:

a musical tone signal generator for generating musical tone signals;

a storage which is provided for a musical tune constructed by a plurality of parts, so that the storage stores performance data with regard to at least a prescribed part within the plurality of parts and tone color data with regard to all of the plurality of parts;

a tone color assignor for assigning tone colors, designated by the tone color data of the plurality of parts, respectively to the plurality of performance operators;

an automatic performance controller for playing automatic performance by controlling the musical tone signal generator based on the performance data stored in the storage;

a manual performance controller for controlling the musical tone signal generator to generate the musical tone signals in response to the tone-generation instructions output from the performance operators being manually operated by the users; and

first and second manual operable members, each of which is manually operated by the user to control the musical tone signal generator in accordance with a prescribed function,

wherein the first manual operable member is provided for the main unit while the second manual operable member is provided for one of the plurality of performance operators.

9. (Amended) A musical tone signal generation apparatus according to claim 8 wherein each of the plurality of performance operators [installs] includes at least a pad whose surface is to be struck by each user to issue a tone-generation instruction.

24. (New) A musical tone signal generation apparatus comprising:
a main unit that has a circular periphery;
at least one performance operator that is separated from the main unit;
a plurality of speakers arranged on the main unit;
a sensor installed in the performance operator, wherein the sensor detects an impact applied to the performance operator so as to convert it to an electric signal; and
a musical tone signal generator for generating a musical tone signal based on the electric signal output from the sensor, so that the speaker generates a musical tone based on the musical tone signal.

25. (New) The musical tone signal generation apparatus according to claim 24, wherein the main unit has a conical shape.

26. (New) The musical tone signal generation apparatus according to claim 24, wherein the plurality of speakers are arranged on the main unit in a radial pattern.

27. (New) The musical tone signal generation apparatus according to claim 24, which is designed as a portable percussion instrument.

28. (New) The musical tone signal generation apparatus according to claim 24, further comprising:
a storage for storing performance data, and
an automatic performance controller for playing automatic performance by controlling the musical tone signal generator based on the performance data stored in the storage.

29. (New) The musical tone signal generation apparatus according to claim 24, wherein the performance operator provides at least one pad that is to be struck by a user and that has a sensor thereunder.